

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/032223

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C10G11/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C10G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 313 131 A (EXXON RESEARCH ENGINEERING CO) 19 November 1997 (1997-11-19)	1,2,4,7, 9-19,21, 25-31
Y	page 4, paragraph 3 page 5, paragraph 3 page 6, paragraph 2 page 11, paragraph 2; claims 1,3,4; figure 1; examples 1,2	1,8,19, 24
X	US 4 405 445 A (KOVACH STEPHEN M ET AL) 20 September 1983 (1983-09-20)	1-6, 9-23, 25-31
Y	column 4, line 58 - line 68 column 5, line 13 - line 30 column 10, line 15 - line 32 column 15, line 12 - line 19; claims 1,5	1,7,8, 19,24
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

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- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

18 January 2005

Date of mailing of the international search report

27/01/2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>EP 0 933 123 A (MOBIL OIL CORP) 4 August 1999 (1999-08-04) paragraphs '0045!, '0047!; claim 1 -----</p>	<p>1,7,8, 19,24</p>

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/032223

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2313131	A	19-11-1997	NONE	
US 4405445	A	20-09-1983	AT 24543 T	15-01-1987
			CA 1183796 A1	12-03-1985
			DE 3274879 D1	05-02-1987
			EP 0073396 A2	09-03-1983
			JP 1493882 C	20-04-1989
			JP 58052389 A	28-03-1983
			JP 63040469 B	11-08-1988
EP 0933123	A	04-08-1999	US 6142457 A	07-11-2000
			AU 753170 B2	10-10-2002
			AU 1323399 A	19-08-1999
			DE 69907526 D1	12-06-2003
			DE 69907526 T2	20-11-2003
			EP 0933123 A2	04-08-1999
			ES 2193666 T3	01-11-2003
			JP 11262701 A	28-09-1999